



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Reuel S. Orocio )  
Serial No. 10/047,865 ) Examiner: Edgar, Richard A.  
Filed: January 15, 2002 ) Art Unit: 3745  
For: IMPELLER AND METHOD OF ) Date: September 2, 2003  
MANUFACTURING SAME )

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NOV 07 2003

TECHNOLOGY CENTER R3700

DECLARATION UNDER RULE 131(b)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Reuel S. Orocio and Thang D. Vu, the applicants in the above identified patent application, declare as follows:

1. Sometime prior to December 4, 2001, Reuel S. Orocio and Thang D. Vu conceived of an invention of a pump impeller that is formed in a single molding operation with the pump impeller including vanes, a shroud and a shaft sleeve so that the longitudinal center axis of an annular inlet ring mounted on the shroud has a longitudinal center axis that is in substantial alignment with the sleeve so that an efficient, substantially noise-free operation is obtained during rotation of the impeller.

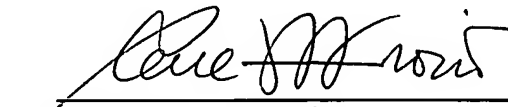
2. Enclosed is a copy of the Disclosure that was submitted to Patent Agent, Jack C. Munro, of said invention, with this Disclosure being dated October 31, 2001.

Declaration to IMPELLER AND METHOD OF MANUFACTURING SAME  
Reuel S. Orocio, inventor  
Serial No. 10/047,865  
Filed January 15, 2002  
Page 2 of 2

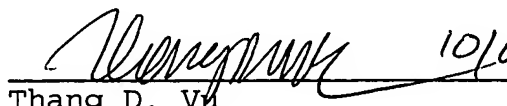
3. Reuel S. Orocio and Thang D. Vu proceeded to have a mold manufactured that would result in the production of the impeller of the subject invention, and during the time the mold was being constructed, a patent application was prepared and filed by Patent Agent, Jack C. Munro, on January 15, 2002.

Reuel S. Orocio and Thang D. Vu further declare that the above statements have been made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of this application or any patent resulting therefrom.

Respectfully submitted,

  
Reuel S. Orocio

10/03/2003

  
Thang D. Vu

10/03/2003



PUMPS FOR THE  
PURE WATER INDUSTRY

ISO 9001 Registered Quality System

Aqua-Flo, Inc.

P.O. Box 2526 • Chino, CA 91708-2526

5651 Schaefer Avenue • Chino, CA 91710-9049

(909) 591-7453 • FAX (909) 627-5660

www.aqua-flo.com • e-mail: aqua-flo@aqua-flo.com



10/31/01

~~PAGE~~ 9 PAGER  
— INC. THIS  
SHEET.

HELLO JACK,

ATTACHED ARE THE ILLUSTRATION  
NOTING THE REQUIREMENTS AND  
HOW THE NEW DESIGN ADDRESSES  
SUCH ISSUES

PLEASE LET ME KNOW IF YOU  
NEED MORE INFO

REGARDS,

REUEL OROCIO

PHONE: (909) 591-7453 EXT. 33

ET FAX: (909) 591-9776

mail: reuel@aqua-flo.com

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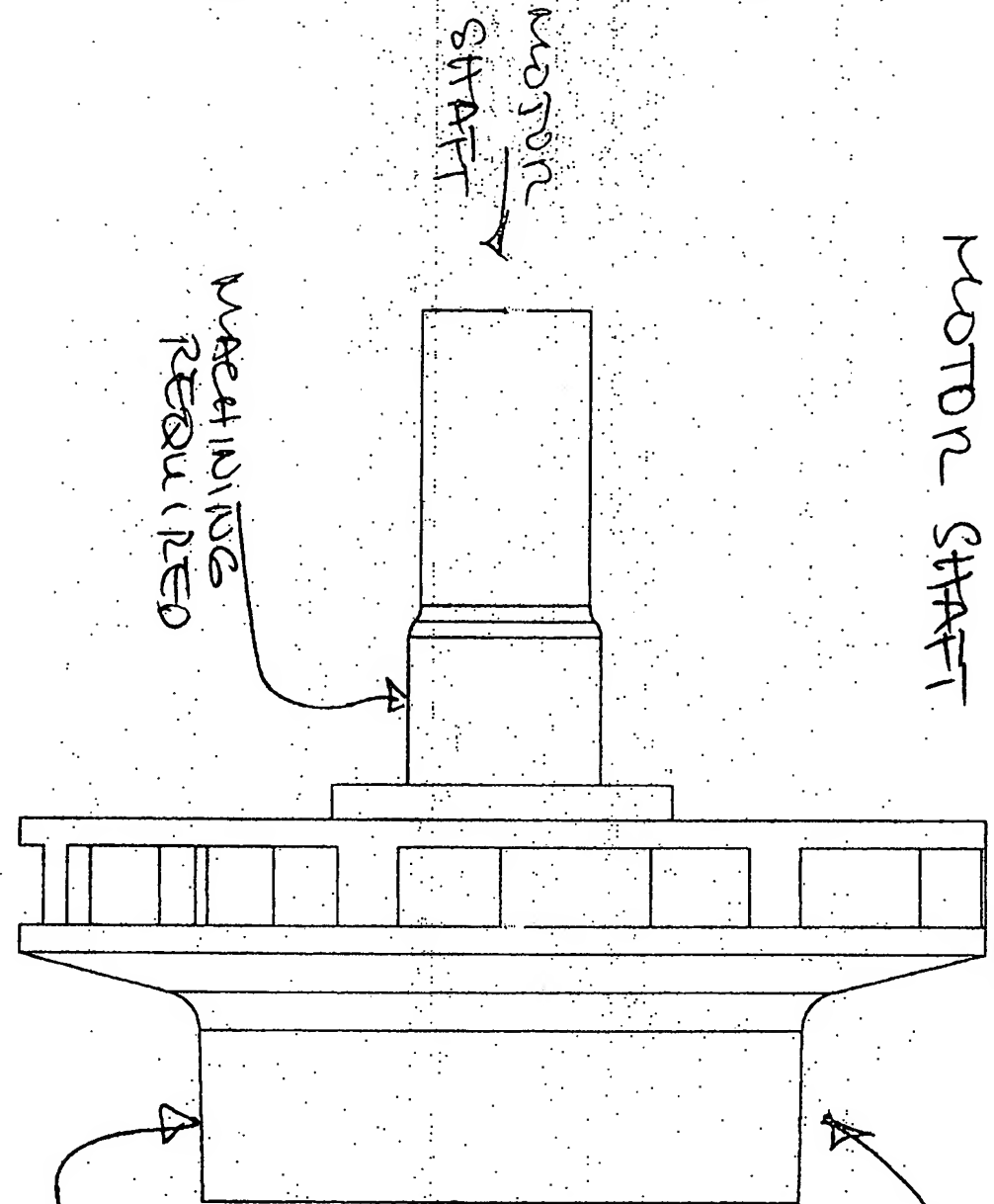
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TECHNOLOGY CENTER R3700



NOTE: CONDUCTIVITY OR T.I.R.  
IS REFERENCED THRU

MOTOR SHAFT



SINCE THESE  
WERE WELDED AS  
SEPARATE  
COMPONENTS,  
THE WELDED  
T.I.R. VARIES  
FROM .030" TO  
.060"  
FOR THIS REASON  
MACHINING IS  
REQUIRED

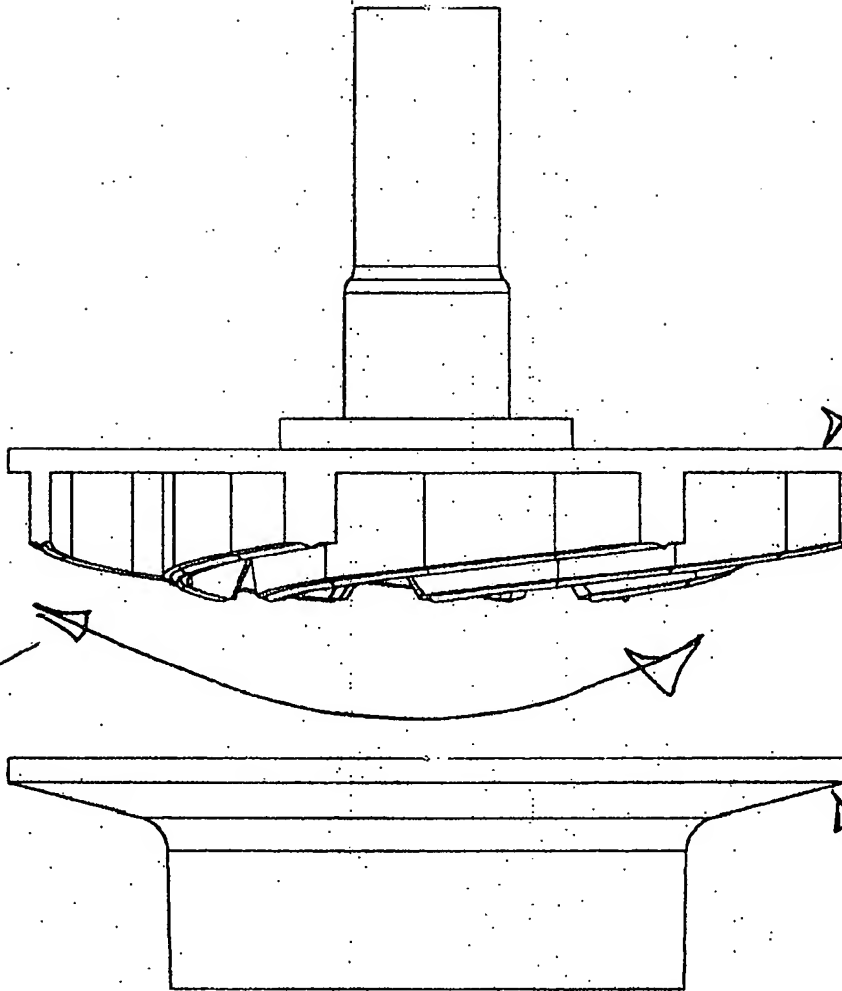
MACHINING  
REQUIRED

CURRENT DESIGN

COMPLETE WELDED ASSEMBLY (WANE WELDED TO STRAND)

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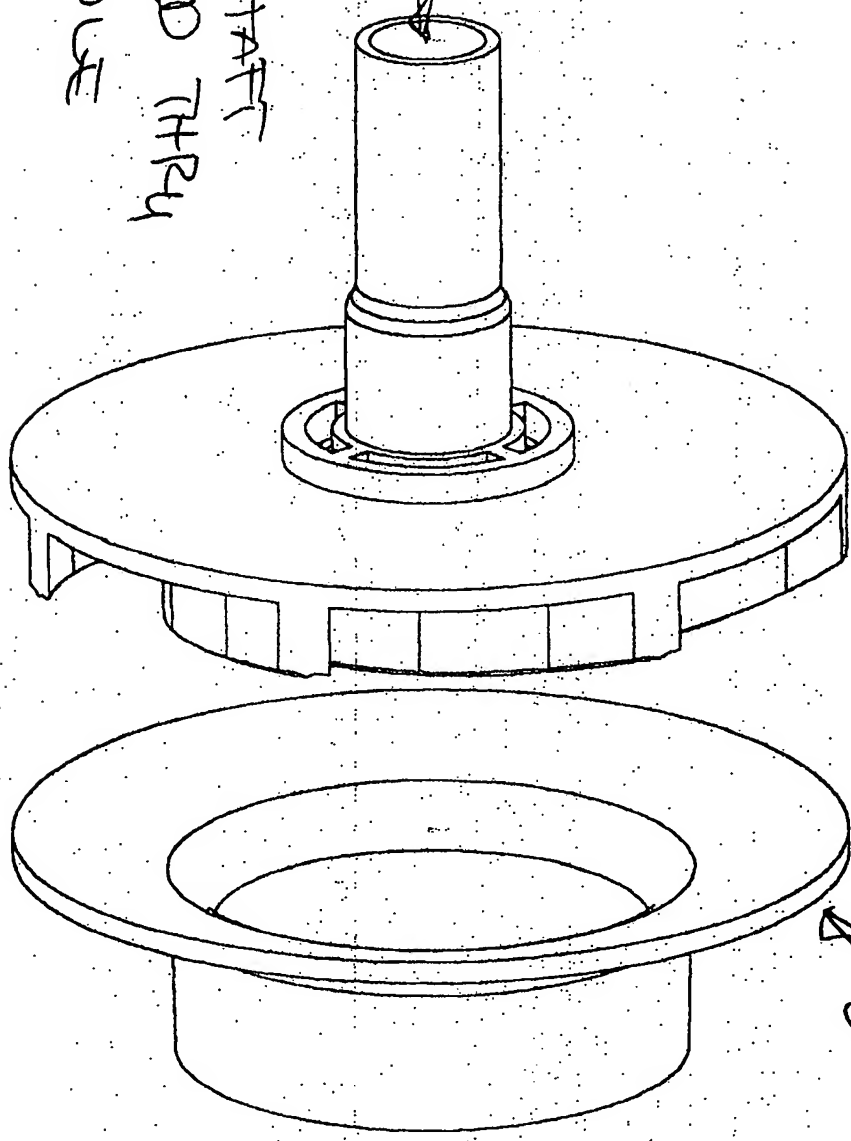
# Current Design Individual Parts



EVEN WITH GOOD  
FIXTURING THE  
SHROUD COULD  
MOVE SIDEWAYS  
DURING WELDING

PAGE 7 of 9

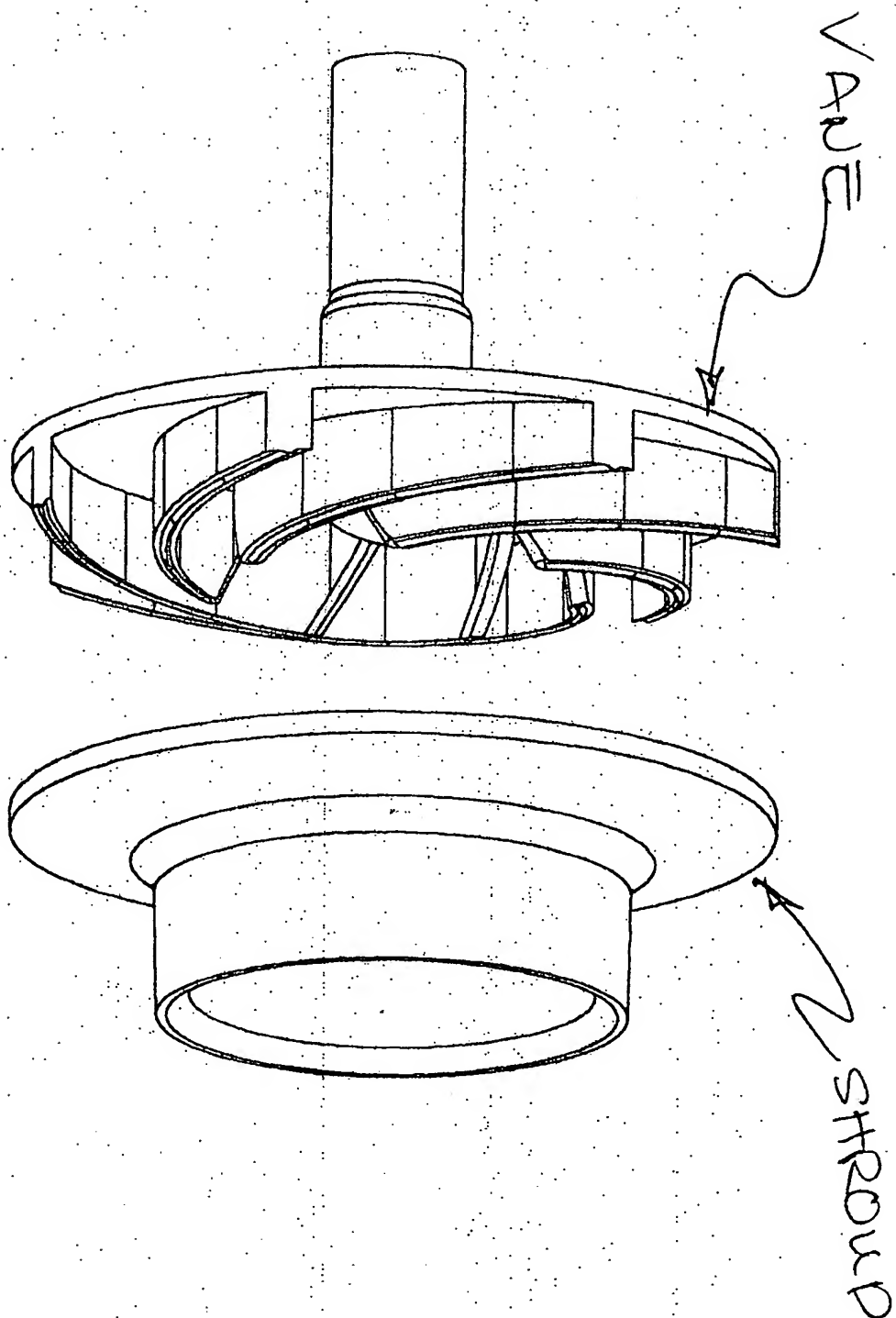
WATER STAFF  
THREADED THRU  
THIS HOLE



CURRENT DESIGN  
INDIVIDUAL PARTS

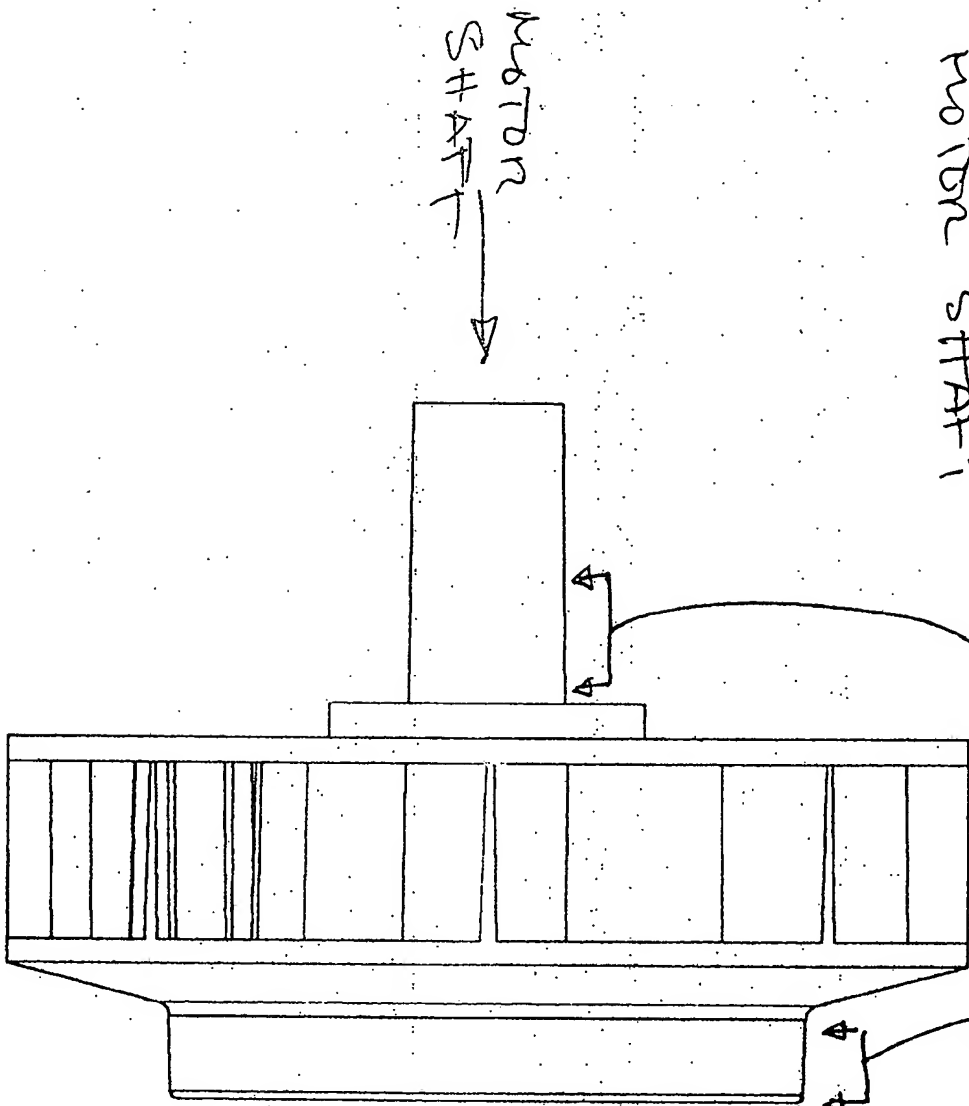
PAGE 8 of 9

CURRENT DESIGN  
INDIVIDUAL PARTS



Page 9 of 9

NOTE: CONCENTRICITY OF 1.1.4. FROM  
IS REFERENCED FROM  
MOTOR SHAFT



LEAST .008" T.I.R.

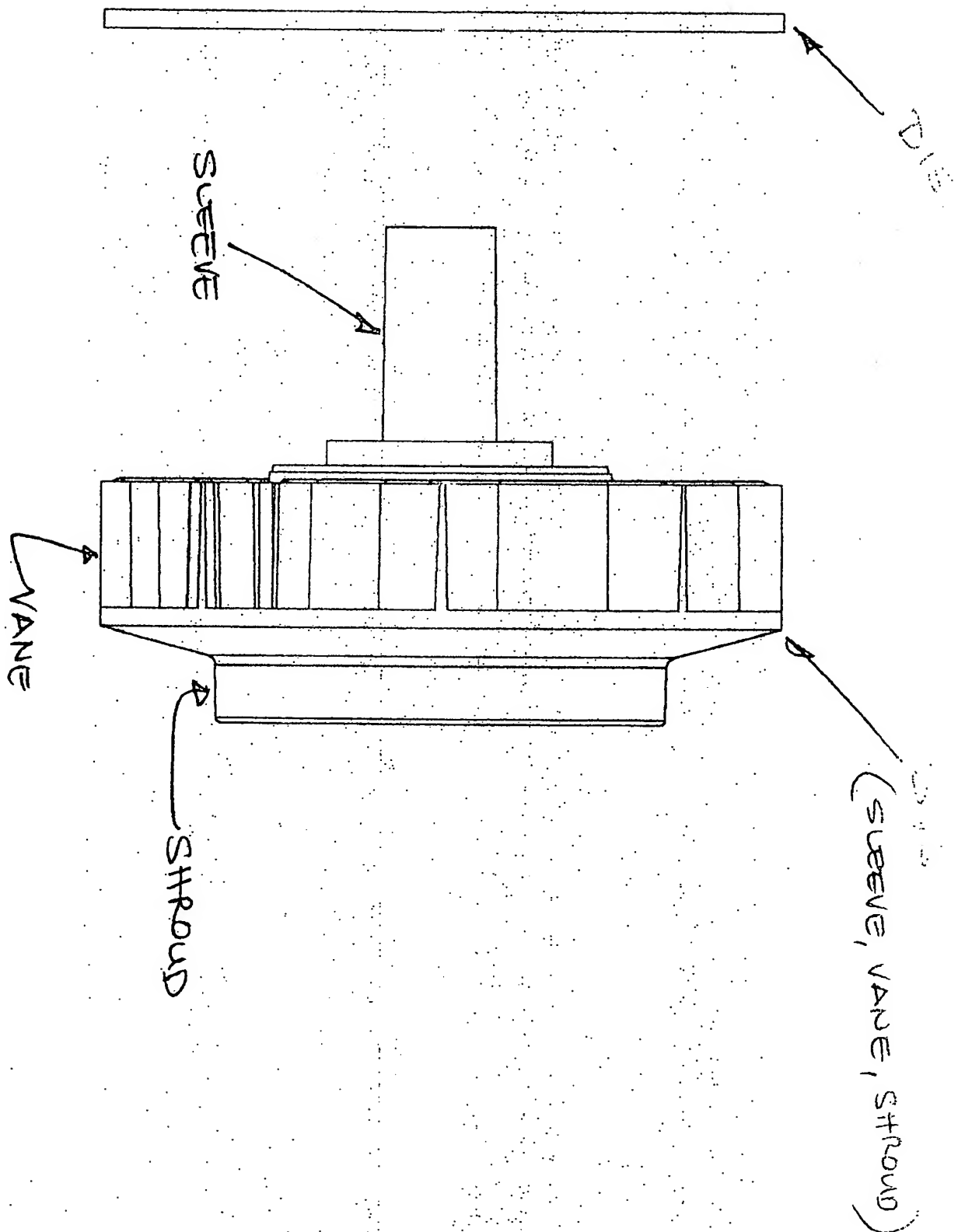
CURRENT DESIGN  
DOES NOT EXCEED  
.006" T.I.R.  
THEREFORE NO  
SECONDARY OPERATION  
(MACHINING) IS  
REQUIRED

Form Involved Runout

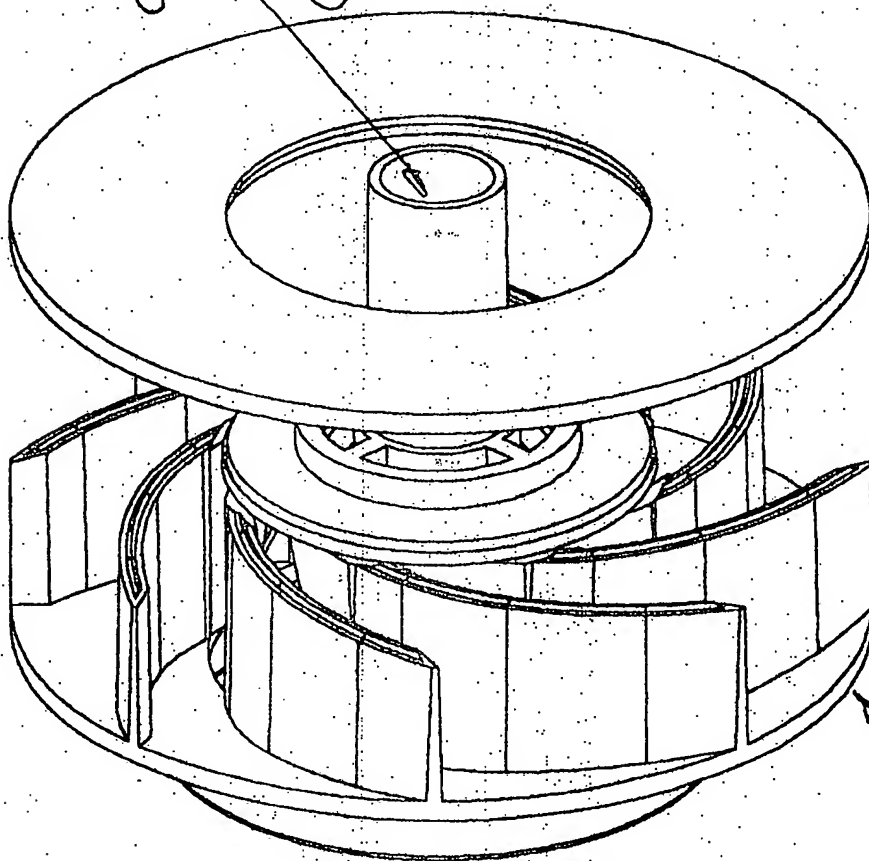
NEW DESIGN  
COMPLETE WELDED ASSEMBLY (DISK WELDED TO SVS)  
CODE NAME: SVS



NEW DESIGN  
INDIVIDUAL PARTS



MOTOR  
SHAFT  
IS THREADED  
THRU THIS  
HOLE



SVS

NEW DESIGN  
INDIVIDUAL PARTS

PAGE 4 of 9

NEW DESIGN  
INDIVIDUAL PARTS

